

Serial No. 10/630,267
67028-014**REMARKS**

Applicant thanks the Examiner for the detailed remarks and analysis. Claims 33 and 34 have been allowed, claim 37 objected to and claims 19-32, 35, and 36 finally rejected.

Claims 19-22 and 24-25 were rejected as being obvious over Machida et al. (U.S. 5,340,528) in view of Kamagai et al. (EP 662383) and Suzuki et al. (U.S. 4,497,359). Machida et al. discloses ejector pins that exert a pressure during molding to provide uniform injection molding. Kamagai et al. discloses springs for biasing urging pins (12C) utilized to maintain a pressure within the cavity when ejector pins are pressed into the cavity to increase a density of plastic within specific regions adjacent the ejector pins (Kamagai et al. Col 14, lines 5-15). Accordingly, the springs are not utilized for increasing a density, but only for maintaining a pressure equilibrium within the cavity. Accordingly, the proposed combination does not disclose springs utilized for displacing material to compensate for changes in volume.

Further, the proposed modification provides no benefit as both Machida et al. and Kamagai et al. utilize hydraulically actuated ejector pins that compensate for material volume changes. The springs used in Kamagai, do not push material back into the cavity, instead the springs retract to compensate for changes in internal pressures caused by movement of the ejector pins into the cavity. As appreciated, therefore combination does not disclose the claimed limitations.

Further, the proposed modification provides no benefit to the basic reference as both prior art devices operate in the same manner. What benefit can there be if both operate in the same manner? That is using ejector pins to increase part density. Without some benefit there can be no motivation to make the proposed changes. As both devices operate in the same manner and the springs in Kamagai et al. operate for an entirely different purpose there can be no suggestion or motivation to make the proposed modification. What motivation is there to make a change if both devices operate essentially identically? For at least these reasons, there is no suggestion and motivation to support a *prima facie* case of obviousness.

Claims 30-32 and 35 were rejected as being obvious over Machida in view of Suzuki et al. Claim 30 requires the step of determining an amount of said molten material received within the passage according to a relationship between material shrinkage and mold injection pressures. Machida does not disclose or suggest this step. Suzuki et al. discloses formulas for determining

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how much of a compression is required to provide a desired density of a die cast part. However, Suzuki et al. does not disclose the step of determining an amount of material that should be received within a passage based on a relationship between material shrinkage and injection pressures. Suzuki et al. merely recites known formulas for determining material shrinkage, however this is not what the claim requires. The claim requires more, which is relating material shrinkage to a volume required to be received within a passage. Suzuki et al. does not disclose this specific step and therefore the combination does not suggest the limitations of claim 30. Accordingly, Applicant requests reconsideration and withdrawal of this rejection.

Claim 36 was rejected as being obvious over Machida in view of Suzuki et al. and Ditto (U.S. 4,076,788). Claim 36 requires the steps of determining a volume of material required to compensate for material shrinkage according to a relationship between material shrinkage and injection pressure utilized to introduce molten plastic into the mold cavity. Suzuki does not disclose this step, but only known formulas to determine material shrinkage. However, the specific step of determining a volume of material required to compensate for material shrinkage according to a relationship between material shrinkage and injection pressures is not shown. Accordingly, the proposed combination does not disclose or suggest the limitations of claim 36.

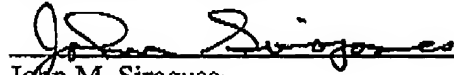
Claim 37 was indicated as being allowable if rewritten in independent form. Applicant has done so. Further claims 33 and 34 were indicated as being allowable.

All objections and rejections have been addressed, Applicant requests reconsideration of the claims as they are believed now in condition for allowance. A notice to such effect is respectfully requested. The Commissioner is authorized to charge Deposit Account No. 50-1482, in the name of Carlson, Gaskey & Olds, P.C., \$100.00 for one additional independent claim. No additional fees are required. If any additional fees are due, however, the Commissioner is authorized to charge Deposit Account No. 50-1482, in the name of Carlson, Gaskey & Olds, P.C., for any additional fees or credit the account for any overpayment.

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Respectfully Submitted,

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